



Assessing Severity of Adverse Childhood Experiences in Chronic Pain Patients

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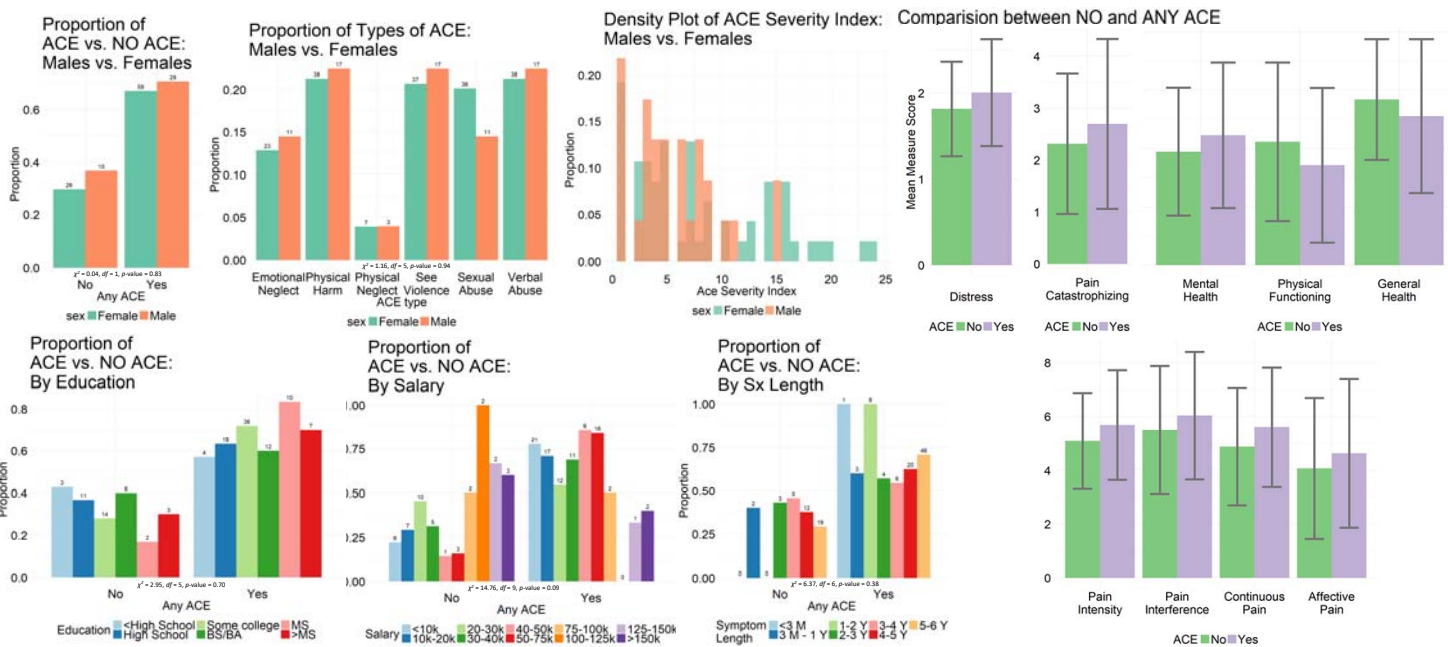
Introduction

- Adverse childhood experiences (ACE) have poorer physical and mental health in adulthood, including increased prevalence of depression, anxiety, PTSD, headaches and chronic somatic conditions, e.g., fibromyalgia and chronic widespread pain.^[1,2]
- The aim of this study was to evaluate the association of pain related constructs (pain intensity, interference, affective pain and pain catastrophizing) with a new instrument designed for retrospective reporting of adverse childhood experiences.^[1,2]
- The Brief Adverse Childhood Events Survey (BRACES)^[3] was used to collect retrospective reports of six types of ACE (physical, sexual and emotional abuse, physical and emotional neglect, and witnessing parental violence).

Method

- Participants were 129 individuals with chronic pain seeking treatment at the University of New Mexico Pain Center.
- Participants were dichotomized into those reporting at least one type of ACE, and no types of ACE and groups were compared by t-test and χ^2 .
- Those that answered yes to any ACE event were analyzed via hierarchical regression using an index of severity of abuse (this index was calculated by averaging responses about severity for each type of ACE).
- Physical functioning, mental health and general health were calculated from the respective subscales of the SF-36, pain catastrophizing from the Pain Coping Questionnaire, distress from the 10-item Hopkin's symptom checklist, pain intensity and interference from the Brief Pain Inventory and affective pain from the McGill Pain Questionnaire.

Results



Hierarchical Regression

Independent Variable	Physical Functioning						Mental Health			General Health								
	β	β	β	β	β	β	β	β	β	β	β							
Step 1	Step 1																	
Intercept	-0.15	0.02	0.27	0.40 [*]	0.11	0.16	0.24	0.30	0.34	0.32	0.32 ^{***}	0.00	0.30	0.30 ^{***}	0.00	0.25	0.25 ^{***}	0.00
Sex:Male	-0.01	-0.01	0.05	-0.06	-0.18	0.04	-0.15	-0.10	-0.17	0.01	0.05	0.01	0.44	0.14 ^{**}	0.00	0.33	0.08 ^{**}	0.00
Ethnicity:Hispanic	0.12	-0.09	-0.31	-0.53 [*]	0.03	-0.21	-0.21	-0.30	-0.32	0.01	0.41	0.49	0.04 [*]	0.01	0.33	0.00	0.52	0.00
Age	-0.06	-0.15	-0.11	0.14	0.00	-0.07	0.08	0.08	-0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Education	0.30 ^{**}	0.17	0.19	-0.24 [*]	-0.08	-0.29 ^{**}	-0.30 [*]	-0.21	-0.29 ^{**}	0.01	0.20	0.20 ^{**}	0.01	0.33	0.33 ^{***}	0.00	0.00	0.00
Salary	0.33 ^{**}	0.50 ^{***}	0.31 [*]	-0.35 ^{**}	-0.44 ^{**}	-0.41 ^{***}	-0.23	-0.32 [*]	-0.32 [*]	0.00	0.38	0.18 ^{***}	0.00	0.67	0.34 ^{***}	0.00	0.00	0.00
Symptom Length	-0.18 [*]	-0.02	-0.22 [*]	-0.10	0.01	0.05	0.05	-0.01	0.07	0.00	0.35	0.55	0.17 ^{***}	0.00	0.68	0.01	0.21	0.00
Step 2	Step 2																	
Pain Intensity	-0.26 [*]	-0.45 ^{***}	-0.33 ^{**}	0.49 ^{**}	0.50 ^{***}	0.65 ^{***}	ACE Severity	0.29 ^{**}	0.10	0.16								
Step 3	Step 3																	
ACE Severity	0.08	-0.25 [*]	-0.07	0.09	0.46 ^{**}	0.09												

Note: $p \leq 0.001$ ^{***}, $p \leq 0.01$ ^{**}, $p \leq 0.05$ ^{*}

Discussion

- In this sample, a simple dichotomization of those reporting no ACE or any ACE was not sufficient to discriminate scores on pain, physical and mental health constructs. However, the severity of the reported ACE experiences in childhood was associated with increased pain and psychological dysfunction in adulthood--this is consistent with the literature on ACE and psychological functioning and pain. The BRACES instrument provides a unique tool for assessing severity ACEs.

[1] Mazurek, W., Kossava, M., Goyler, N., Klose, P., & Sommer, C. (2011). Emotional, physical, and sexual abuse in fibromyalgia syndrome: A systematic review with meta-analysis. *Arthritis Care & Research*, 23(6), 808-820.

[2] Helitzer, D. L., Murray-Krzysz, C., Graeber, D.A., Katzman, J. G., Dunigg, D., & Rhyne, R. L. (2016). Reliability and validity of chronic pain scales in adults with adverse childhood experiences. *Journal of Behavioral Health*, 32, 68-74.

[3] Raphael, K. G., & Widom, C. S. (2011). Post-traumatic stress disorder moderates the relation between documented childhood victimization and pain 30 years later. *Pain*, 152(1), 153-159.